

2.19 Threatened and Endangered Species

This section of the document discusses threatened and endangered species as well as designated critical habitat with the potential to occur within the BSA, and it summarizes agency consultation conducted to date.

2.19.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the FESA (USC, Section 1531, et seq. and 50 Code of CFR Part 402). FESA and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems on which they depend. Under Section 7 of the FESA, federal agencies, such as the FHWA, are required to consult with the USFWS and the NOAA Fisheries [Service](#) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered (T/E) species. The outcome of consultation under Section 7 is a Biological Opinion or an [Incidental Take statement](#). Section 3 of FESA defines take as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, the [California Endangered Species Act \(CESA\)](#); California Fish and Game Code, Section 2050, et seq. [CESA](#) emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species, and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The CDFG (California Department of Fish and Game) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits “take” of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For [species listed under both FESA and CESA](#) requiring a Biological Opinion under Section 7 of FESA, CDFG also may authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

[Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the](#)

coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

2.19.2 Affected Environment

For the NES (September 2010), databases containing records of reported occurrences of federally or State-listed endangered, threatened, proposed endangered, or threatened species; California Species of Special Concern (CSC); or otherwise special-status species or habitat that may occur within or in the immediate vicinity of the BSA were reviewed. In addition, a letter requesting a list of proposed, threatened, or endangered species potentially occurring within the BSA was sent to the USFWS on August 31, 2009. A response to the request dated September 28, 2009, was received and is included in Appendix C of the NES. A second letter was sent to USFWS on July 28, 2011 requesting that the list sent from USFWS in September 2009 was still valid. A response was received on August 18, 2011 indicating that this list was still valid. Additionally, a reconnaissance-level survey and habitat mapping were conducted on September 15 and 22, 2009. A field meeting with Sally Brown of USFWS occurred on September 16, 2010 to discuss the project. As a result of this meeting, informal consultation was recommended by USFWS. On May 9, 2011, the Final NES (September 2010) and Supplemental NES (December 2010) were sent to USFWS to informally request concurrence with the finding of “not likely to adversely affect” Federally listed species. On June 23, 2011, the USFWS concurred with this finding (see Appendix B, Correspondence).

Tables 2.19-1 and 2.19-2 show the 28 threatened and endangered species identified in the USFWS letter and/or the database review as occurring or potentially occurring in the BSA and/or the surrounding area. These species may also be State listed as threatened or endangered.

Of the 27 threatened, endangered, and candidate plant and animal species listed that may occur in the BSA, two plant species were determined to lack either suitable habitat or distribution in the BSA and are considered to be absent from the BSA at this time. Those species are coastal dunes milk-vetch and Encinitas baccharis. Thirteen animal species were determined to lack either suitable habitat or distribution

in the BSA and are considered to be absent from the BSA at this time. Those species are Riverside fairy shrimp, tidewater goby, golden eagle, western snowy plover, southwestern willow flycatcher (SWWF), American peregrine falcon, Belding's savannah sparrow, light-footed clapper rail, bank swallow, California least tern, ringtail, Stephen's kangaroo rat, and Pacific pocket mouse.

The six plant species and six animal species occurring or potentially occurring in the BSA are described in detail in the following sections.

Focused botanical surveys for thread-leaved brodiaea, Laguna Beach dudleya, San Diego button-celery, Moran's navarretia, Brand's star phacelia, and big-leaved crownbeard were conducted in 2010 in the BSA during the appropriate blooming period for each species. The survey results for all six species were negative. Therefore, all six plant species are considered absent from the BSA and are not discussed further in this section.

Table 2.19-1 Summary of Threatened and Endangered Plant Species

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat Present/ Absent	Rationale
Coastal dunes milk-vetch	<i>Astragalus tener</i> var. <i>titi</i>	FE CE CSP CNPS: List 1B	Annual herb. Occurs in coastal bluff scrub, coastal dunes, and coastal prairie, often in vernal mesic areas. From 3 to 150 ft in elevation.	March–May	A	No suitable habitat for this species is present in the BSA.
Encinitas baccharis	<i>Baccharis vanessae</i>	FT CE CSP CNPS: List 1B	Perennial deciduous shrub. Occurs in chaparral and cismontane woodland from 180 to 2,160 ft in elevation.	August–November	A	No suitable habitat for this species is present in the BSA.
Thread-leaved brodiaea	<i>Brodiaea filifolia</i>	FT CE CSP CNPS: List 1B.1	Bulbiferous perennial herb. Occurs primarily in vernal pools, but also found in chaparral, cismontane woodlands, coastal scrub, playas, and valley and foothill grasslands, usually in clay soils. From 115 to 4,003 ft in elevation.	March–June	HP	Suitable habitat for this species is present in the BSA. Not observed during botanical surveys conducted during the appropriate blooming period for this plant in 2010.
Laguna Beach dudleya	<i>Dudleya stolonifera</i>	FT CT CSP CNPS: List 1B	Perennial stoloniferous herb. Occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grasslands, often in thin soil on north-facing sandstone cliffs. From 30 to 780 ft in elevation.	May–July	HP	Suitable habitat for this species is present in the BSA. Not observed during botanical surveys conducted during the appropriate blooming period for this plant in 2010.
San Diego button-celery	<i>Eryngium aristulatum</i> var. <i>parishii</i>	FE CE CSP CNPS: List 1B	Annual/perennial herb. Occurs in coastal scrub, valley and foothill grasslands, and mesic vernal pools from 60 to 1,860 ft in elevation.	April–June	HP	Suitable habitat for this species is present in the BSA. Not observed during botanical surveys conducted during the appropriate blooming period for this plant in 2010.

Table 2.19-1 Summary of Threatened and Endangered Plant Species

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat Present/Absent	Rationale
Moran's navarretia	<i>Navarretia fossalis</i>	FT CSP CNPS: List 1B	Annual herb. Occurs in chenopod scrub; assorted shallow freshwater marshes; and swamps, playas, and vernal pools from 90 to 3,900 ft in elevation.	April–June	HP	Suitable habitat for this species is present in the BSA. Not observed during botanical surveys conducted during the appropriate blooming period for this plant in 2010.
Brand's star phacelia	<i>Phacelia stellaris</i>	FC CSP CNPS: List 1B	Annual herb. Occurs in coastal dunes and coastal scrub from 3 to 1,200 ft in elevation.	March–June	HP	Suitable habitat for this species is present in the BSA. Not observed during botanical surveys conducted during the appropriate blooming period for this plant in 2010.
Big-leaved crownbeard	<i>Verbesina dissita</i>	FT CT CSP CNPS: List 1B	Perennial herb. Occurs in southern maritime chaparral and coastal scrub from 135 to 615 ft in elevation along the immediate coast.	April–July	HP	Suitable habitat for this species is present in the BSA. Not observed during botanical surveys conducted during the appropriate blooming period for this plant in 2010.

Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC); California Endangered (CE); California Threatened (CT); California Fully Protected Species (CFP); California Special Plant (CSP), California Native Plant Society (CNPS); etc.

Habitat Present/Absent:

A – No habitat is present and no further work is needed, or habitat is absent or species was absent in the BSA at the time of the focused survey.

HP – Habitat is or may be present.

O – The species was observed in the BSA at the time of the survey.

CH – The project footprint is located in a designated critical habitat unit, but appropriate habitat is not necessarily present.

BSA = Biological Study Area

ft = feet

CNPS designations:

List 1A: Plants presumed extinct in California

List 1B: Plants rare and endangered in California and throughout their range

List 2: Plants rare, threatened, or endangered in California but more common elsewhere in their range

List 3: Plants needing more information (a review list)

List 4: Plants of limited distribution (a watch list)

Table 2.19-2 Summary of Threatened and Endangered Animal Species

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Rationale
INVERTEBRATES					
San Diego fairy shrimp	<i>Branchinecta sandiegoensis</i>	FE CSA	Endemic to vernal pools in Orange and San Diego Counties. Usually appears in late fall, winter, and spring, when rains fill its small, shallow, seasonal pools.	HP	Limited suitable habitat is present in the BSA.
Riverside fairy shrimp	<i>Streptocephalus woottoni</i>	FE CSA	Found in warmwater pools (i.e., large, deep pools that retain water into the warm season) and vernal pools in Orange, Riverside, Los Angeles, Ventura, and San Diego Counties.	A	Suitable habitat is absent from the BSA.
FISH					
Tidewater goby	<i>Eucyclogobius newberryi</i>	FE SSC	Found in shallow lagoons and lower stream reaches in brackish-water habitats. Occurs along the California coast from the mouth of the Smith River to San Diego County.	A	Suitable habitat is absent from the BSA.
Southern steelhead	<i>Oncorhynchus mykiss irideus</i>	FE SSC	Occurs in stream habitats containing runs, low-gradient riffles, mid-channel pools, and lateral scour pools associated with bedrock. Occurred in lower San Juan Creek historically, but has apparently not been recorded in decades.	HP	Limited suitable habitat is present in the BSA.
AMPHIBIANS					
Arroyo toad	<i>Anaxyrus (Bufo) californicus</i>	FE SSC	Found in semiarid regions near washes or intermittent streams. Often found near streams with sandy banks, gravel washes, and riparian vegetation.	HP	Marginally suitable habitat for this species is present in the BSA.
BIRDS					
Golden eagle	<i>Aquila chrysaetos</i>	BCC CFP (nesting and nonbreeding/ wintering)	Occurs in grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests primarily in rugged mountainous country. Uncommon resident in Southern California.	A	Suitable habitat is absent from the BSA.
Western snowy plover (coastal population)	<i>Charadrius alexandrinus nivosus</i>	FT BCC SSC (nesting)	Occurs in sandy beaches, salt pond levees, and shores of large alkali lakes; needs sandy, gravelly, or friable soils for nesting.	A	Suitable habitat is absent from the BSA.
White-tailed kite	<i>Elanus leucurus</i>	CFP (nesting)	Breeds in riparian trees such as oaks, willows, and cottonwoods in lower-elevation areas, particularly coastal valleys and plains.	HP	Suitable habitat for this species is present in the BSA.

Table 2.19-2 Summary of Threatened and Endangered Animal Species

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Rationale
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE CE (nesting)	Breeds and nests in riparian forest with dense understory. Rare and local in Southern California.	A	Suitable habitat for this species is absent from the BSA.
American peregrine falcon	<i>Falco peregrinus</i>	FD BCC CE CFP (nesting)	Widespread, but scarce and local throughout North America. Prefers wetlands near high cliffs; few known to nest in urban settings on tall buildings.	A	Suitable foraging habitat is present in the BSA but suitable nesting habitat is absent.
Belding's savannah sparrow	<i>Passerculus sandwichensis beldingi</i>	CE	Inhabits coastal salt marshes from Santa Barbara through San Diego County. Nests in <i>Salicornia</i> on and around the margins of tidal flats.	A	Suitable habitat for this species is absent from the BSA.
Coastal California gnatcatcher	<i>Polioptila californica californica</i>	FT SSC	Obligate, permanent resident of coastal scrub below 2,500 ft in elevation in Southern California.	HP, CH, O	Observed during the 2009 surveys. Suitable habitat for this species is present in the BSA.
Light-footed clapper rail	<i>Rallus longirostris levipes</i>	FE CE CFP	Found in salt marshes traversed by tidal sloughs where cordgrass and pickleweed are the dominant vegetation.	A	Suitable habitat is absent from the BSA.
Bank swallow	<i>Riparia riparia</i>	CT (nesting)	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, and the ocean to dig nesting holes.	A	Suitable nesting habitat is absent from the BSA.
California least tern	<i>Sternula antillarum browni</i>	FE CE CFP (nesting colony)	Nests along the coast from San Francisco Bay to northern Baja California. Breeds on bare or sparsely vegetated, flat substrates such as sandy beaches, alkali flats, landfills, or paved areas.	A	Suitable nesting habitat is absent from the BSA.
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE BCC CE (nesting)	Occurs in moist thickets and riparian areas that are predominantly composed of willow and mulefat.	HP	Marginally suitable nesting habitat for this species is present in the BSA. Focused surveys for this species were conducted in 2010 and LBV were found at three locations during the surveys..

Table 2.19-2 Summary of Threatened and Endangered Animal Species

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Rationale
MAMMALS					
Ringtail	<i>Bassariscus astutus</i>	CFP	Found in dry, rocky, or mountainous areas with scattered oaks and conifers. Dens among rock crevices, in burrows, or hollow trees by day and emerges after dark.	A	Suitable habitat is absent from the BSA.
Stephens' kangaroo rat	<i>Dipodomys stephensi</i>	FE CT	Found in plant communities transitional between grassland and coastal sage scrub, with perennial vegetation cover of less than 50 percent. Most commonly associated with <i>Artemesia tridentata</i> , <i>Eriogonum fasciculatum</i> , and <i>Erodium</i> spp. Requires well-drained soils with compaction characteristics suitable for burrow construction. Occurs only in western Riverside County and northern San Diego County below 3,000 ft in elevation. In northeastern Riverside County, known only from east of Interstate 15.	A	Suitable habitat is present in the BSA, but the BSA is outside the range of this species.
Pacific pocket mouse	<i>Perognathus longimembris pacificus</i>	FE SSC	Inhabits friable soils along the narrow coastal plains from the northern Mexican border to Los Angeles County.	A	Suitable habitat for the species not present in the BSA.

Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Delisted (FD); Birds of Conservation Concern (BCC); California Endangered (CE); California Threatened (CT); California Delisted (CD); California Species of Special Concern (SSC); California Fully Protected Species (CFP); California Special Animal (CSA)

Habitat Present/Absent:

A – No habitat is present and no further work is needed.

HP– Habitat is or may be present.

O –The species was observed in the BSA during surveys.

CH – The BSA is within a designated critical habitat unit, but this does not necessarily mean that appropriate habitat is present.

BSA = biological study area

ft = feet

mi = mile

2.19.2.1 Threatened and Endangered Wildlife Species

There is potential habitat in the BSA for six threatened and/or endangered animal species: San Diego fairy shrimp, southern steelhead, arroyo toad, white-tailed kite, CAGN, and least Bell's vireo (LBV). As a result, focused protocol surveys were conducted in suitable habitat areas in the BSA for those threatened or endangered animal species. Those species are described in the following sections.

San Diego Fairy Shrimp

The San Diego fairy shrimp was listed as endangered by the USFWS in February 1997. On December 1, 2007, the USFWS designated 3,082 ac in Orange and San Diego Counties as revised final critical habitat (72 Federal Register [FR] 70647). This revised final rule excludes lands within approved Habitat Conservation Plan (HCP) areas. The San Diego fairy shrimp was not observed during 2009 and 2010 surveys. There is one area north of Camino Capistrano that may be suitable for fairy shrimp; however, this potentially suitable area is outside the impact area for Build Alternative [4](#). Limited suitable habitat is present in the BSA, and the proposed project is not within or near any designated critical habitat for the San Diego fairy shrimp. Consequently, there is little probability for the San Diego fairy shrimp to occur in the BSA.

Southern Steelhead

In August 1997, the southern steelhead was listed as endangered by the NOAA National Marine Fisheries Service (NMFS). No critical habitat for the southern steelhead has been designated in Orange County.

Limited suitable habitat is present in the BSA. The southern steelhead occurred in lower San Juan Creek historically but has apparently not been recorded there in decades. Southern steelhead was not observed in the BSA during the surveys conducted in 2009 and 2010. Although surveys were not directed toward this species, there is a low probability of southern steelhead occurring within San Juan Creek in or immediately downstream of the BSA because the habitat within the BSA is marginal, and this species is believed to be extirpated from San Juan Creek. On September 2, 2005, the NMFS changed the status of San Juan Creek to unoccupied by steelhead and removed all 19.7 mi of San Juan Creek from the species' critical habitat (FR 2005). Therefore, southern steelhead is considered absent from the BSA.

Arroyo Toad

Arroyo toads are primarily nocturnal and are identified by their olive green to light brown coloration, white belly, and white v-shaped stripe between the eyes. Arroyo toads are also set apart from other toads since their eggs are laid at calling sites of males. The arroyo toad's life begins in the water, where it hatches and develops into a tadpole. Once it reaches the adult stage, it primarily dwells on land. This species subsists on insects and digs burrows on sandy terraces or occupies abandoned rodent burrows.

In December 1994, the arroyo toad was listed as endangered by the USFWS. It was also listed as a Species of Special Concern by the CDFG in 1994. On April 13, 2005, the USFWS designated 11,695 ac of critical habitat for the toad in parts of Santa Barbara, Ventura, Los Angeles, San Bernardino, and Riverside Counties. Marginally suitable habitat for this species is present in the BSA. Conditions within San Juan Creek appear suitable for arroyo toad breeding and foraging. Upland habitat quality in and immediately adjacent to the BSA is low to marginal, but upstream there is marginally suitable upland habitat with channel vegetation of mature willow riparian forest and willow riparian scrub. However, arroyo toads were not observed during surveys conducted on September 22, 2009, and no critical habitat for the toad has been designated in Orange County.

White-Tailed Kite

The white-tailed kite is a fully protected species by the State of California. The white-tailed kite is a medium-sized hawk with long, narrow, pointed wings; a gray back and wings; and a white face and underside. Kites prefer open grasslands and savannahs, where they hover while hunting small mammals. White-tailed kites nest in trees, typically near marshes. Suitable habitat for this species is present in the BSA; however, no white-tailed kites were observed during surveys in 2009 or 2010, which did not focus on this species.

Coastal California Gnatcatcher

The CAGN was listed as threatened by the USFWS in March 1993. On February 7, 2000, approximately 513,650 ac in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties were designated as critical habitat for the CAGN (65 FR 63680). New boundaries for designated critical habitat encompassing a total of 495,795 ac were proposed in April 2003 (68 FR 20228). On December 19, 2007, the USFWS designated 197,303 ac as revised final critical habitat (72 FR 72010). This revised final rule excludes lands in approved HCP areas. Appendix J, Biological

Resources, shows the location of CAGN designated critical habitat in and near the BSA.

The CAGN is a nonmigratory songbird that typically nests and forages in moderately dense stands of CSS below 2,500 ft in elevation in Southern California. CAGN usually defend breeding territories ranging in size from 2 to 14 ac and occupy home ranges that vary in size from 13 to 39 ac. The breeding season of the CAGN generally extends from February 15 through August 30.

Up to seven pairs of CAGN were found in CSS in the BSA. On November 13, 2009, three pairs of CAGN were observed in CSS along the western slope of I-5 near Camino Capistrano and Doheny Park Road. On the same day, a fourth pair was detected across the freeway approximately 350 ft south of the Stonehill Drive on-ramp to northbound I-5. On January 25, 2010, up to three more pairs were observed in the high-quality CSS along the southwest side of I-5 between Camino de Estrella and the Shorecliff Golf Club at Avenida Vaquero.

Least Bell's Vireo

LBV was listed as an endangered species by State and federal agencies in 1980 and 1986, respectively, and critical habitat was designated in 1994 (USFWS 1986, 1994). LBV is a small migratory songbird that nests in Southern California. This species is a summer resident of Southern California and breeds in willow thickets and other dense, low riparian growths in lowlands and lower portions of canyons.

Approximately 38,000 ac of critical habitat was designated for LBV in 1994. The critical habitat occurs in 10 areas throughout Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, and San Diego Counties. Approximately 49 percent of the LBV population in the United States occurred in these 10 critical habitat areas in 1994: the Santa Ynez River, Santa Clara River, Santa Ana River, Santa Margarita River, San Luis Rey River, Sweetwater River, San Diego River, Tijuana River, Coyote Creek, and Jamul-Dulzura Creeks.

LBV were found at three locations during the surveys. Within the BSA, an unmated male was observed in the low-lying area between the freeway and the San Juan Capistrano School District offices north of the Stonehill Drive interchange. The dates that that bird was observed (May 24, June 7, and June 16) suggest that it may have been the same bird that was present earlier (May 4 and May 13) on the northeast side of the school district offices. The third location occupied by LBV was in more typical willow riparian habitat along San Juan Creek just upstream from the I-5 crossing

where successful nesting was confirmed on May 24. There is no LBV-designated critical habitat within or immediately adjacent to the BSA.

2.19.3 Environmental Consequences

2.19.3.1 Temporary Impacts

Build Alternative 4 with Design Option A (Preferred Alternative)

Habitat for coastal dunes milk-vetch and Encinitas baccharis is not present in the BSA; therefore, there would be no temporary impact to these three plant species as a result of the proposed project. Suitable habitat for thread-leaved brodiaea, Laguna Beach dudleya, San Diego button-celery, Moran's navarretia, Brand's star phacelia, and big-leaved crownbeard is present in the BSA. None of these species were observed during the 2010 surveys and are therefore considered absent from the BSA. Because these species are considered absent from the BSA, Build Alternative 4 with Design Option A is not expected to affect these species.

As stated earlier, there are 19 animal species that are federally and/or State-listed as endangered or threatened, or proposed endangered or threatened, or are considered Fully Protected species by the State of California that have the potential to occur in the study area. Suitable habitat for the following 13 of these animal species is not present in the BSA: Riverside fairy shrimp, tidewater goby, golden eagle, western snowy plover, SWWF, Belding's savannah sparrow, light-footed clapper rail, bank swallow, California least tern, ringtail, Stephen's kangaroo rat, and Pacific pocket mouse. Therefore, there would be no temporary impact to these 13 animal species as a result of this project. Potential temporary impacts to the six remaining animal species (San Diego fairy shrimp, southern steelhead, arroyo toad, white-tailed kite, CAGN, and LBV) are addressed below.

San Diego Fairy Shrimp

Limited suitable habitat for the San Diego fairy shrimp is present in the BSA, and the proposed project is not within or near any designated critical habitat for this animal species. There is one potential area north of Camino Capistrano that could potentially be occupied by San Diego fairy shrimp. However, no construction for the I-5 HOV Lane Extension Project is planned near this area. Therefore, no direct or indirect temporary impacts to San Diego fairy shrimp are expected to occur as a result of Build Alternative 4 with Design Option A.

Southern Steelhead

Because southern steelhead is considered absent from the BSA and there is no designated critical habitat for the species in or downstream of the BSA, no direct or indirect temporary impacts to southern steelhead are expected to occur as a result of [Build Alternative 4 with Design Option A](#).

Arroyo Toad

The I-5 HOV Lane Extension Project is not expected to require any construction in or immediately adjacent to San Juan Creek. Therefore, [Build Alternative 4 with Design Option A](#) is not expected to have any direct temporary impacts to arroyo toad.

However, if the project design changes and construction is anticipated in that area, protocol arroyo toad surveys will be conducted in the area. Potential indirect temporary impacts from construction include the increased exposure of arroyo toad to noise, vibration, dust, and human presence. Without minimization measures, noise, vibration, and dust generated from construction equipment could potentially adversely affect arroyo toad in the immediate vicinity of construction activities.

Because this species occurs within riparian/riverine habitats, proposed minimization measures described in the natural communities section 2.15.1.4 for the riparian/riverine natural community will also benefit arroyo toads.

White-tailed Kite

[Build Alternative 4 with Design Option A](#) is not expected to have any direct temporary impact to white-tailed kites as a result of the avoidance and minimization measures described for the riparian/riverine natural community. However, [Build Alternative 4 with Design Option A](#) is expected to have indirect and temporary impacts to this species through the loss of potential habitat. Therefore, temporary project impacts for this species are the same as those described for the riparian/riverine natural community. Because this species occurs within riparian/riverine habitats, proposed minimization measures described in the natural communities section 2.15.1.4 for the riparian/riverine natural community will also benefit white-tailed kites.

Coastal California Gnatcatcher

Protocol surveys conducted between October 5, 2009, and January 25, 2010, determined that CAGN are present within the BSA. Temporary impacts to 0.018 ac of CAGN designated critical habitat are expected to occur as a result of temporary construction easements during project implementation. However, no CAGN were observed during focused surveys in or adjacent to this area; thus, project

implementation received a “no effect” or “may affect but is not likely to adversely affect” finding from the USFWS to CAGN and its designated critical habitat. Other than this area, no other direct temporary impacts to CAGN or CAGN-occupied habitat are expected to occur as a result of project implementation. Potential indirect temporary effects from construction include the increased exposure of CAGN to noise, vibration, dust, and human presence. Without minimization measures, noise, vibration, and dust generated from construction equipment could potentially adversely affect CAGN in the immediate vicinity of construction activities. However, implementation of the proposed minimization measures would substantially reduce those potential indirect adverse effects to CAGN.

Least Bell's Vireo

No direct temporary impacts to LBV are expected to occur as a result of project implementation. However, potential indirect temporary impacts from construction activities include the increased exposure of LBV to noise, vibration, dust, and human presence. Without minimization measures, noise, vibration, and dust generated from construction equipment could potentially adversely affect LBV in the immediate vicinity of construction activities; however, implementation of the proposed minimization measures would substantially reduce potential indirect temporary adverse impacts. There is a possibility for LBV or other riparian bird species to move into the project disturbance limits prior to construction. Therefore, the avoidance and minimization measures described for the riparian/riverine natural community will be incorporated to avoid and minimize impacts to LBV and other riparian bird species.

2.19.3.2 Permanent Impacts

Build Alternative 4 with Design Option A (Preferred Alternative)

As stated above, suitable habitat for thread-leaved brodiaea, Laguna Beach dudleya, San Diego button-celery, Moran's navarretia, Brand's star phacelia, and big-leaved crownbeard is present in the BSA. However, none of these species were observed during the 2010 surveys and are therefore considered absent from the BSA. Because these species are considered absent from the BSA, Build Alternative 4 with Design Option A is not expected to affect these species.

As stated earlier, suitable habitat is present within the BSA for six animal species: San Diego fairy shrimp, southern steelhead, arroyo toad, white-tailed kite, CAGN, and LBV. Potential permanent impacts for these species are further addressed below.

San Diego Fairy Shrimp

There is one potential area north of Camino Capistrano that could potentially be occupied by San Diego fairy shrimp. However, no construction by the I-5 HOV Lane Extension Project is planned near this area. Therefore, no direct or indirect permanent impacts to San Diego fairy shrimp are expected to occur as a result of [Build Alternative 4 with Option A](#).

Southern Steelhead

Because southern steelhead is considered absent from the BSA and there is no designated critical habitat for the species in or downstream of the BSA, [Build Alternative 4 with Design Option A](#) is not expected to impact southern steelhead.

Arroyo Toad

The I-5 HOV Lane Extension Project is not expected to require any construction in or immediately adjacent to San Juan Creek. Therefore, [Build Alternative 4 with Design Option A](#) is not expected to have any indirect or direct permanent impacts to arroyo toad. However, if the project design changes and construction is anticipated in that area, protocol arroyo toad surveys will be conducted in the area.

White-Tailed Kite

[Build Alternative 4 with Design Option A](#) is not expected have direct or indirect permanent impacts to white-tailed kites as a result of the avoidance and minimization measures described for the riparian/riverine natural community.

Coastal California Gnatcatcher

No direct or indirect permanent impacts to CAGN, CAGN designated critical habitat, or CAGN-occupied habitat are expected to occur as a result of project implementation.

Least Bell's Vireo

Although direct permanent impacts to LBV are not expected to occur as a result of project implementation, project impacts to riparian/riverine habitat that may potentially be used by LBV for foraging may result in indirect impacts to LBV through loss of potential habitat.

2.19.4 Avoidance, Minimization, and/or Mitigation Measures

In addition to the measures previously discussed in Section 2.15, Natural Communities, Section 2.16, Wetlands and Other Waters, and Section 2.2.18, Animal

Species, the following measure is to be implemented during construction to avoid and minimize indirect impacts to threatened and endangered species.

BIO-10 A biologist (“Project Biologist”) approved by the USFWS will be on site during: a) initial clearing and grubbing; and b) weekly during project construction within 61 meters (m) [200 feet (ft)] of offsite CAGN and LBV habitat to ensure compliance with all conservation measures. The Project Biologist will be familiar with the habitats, plants, and wildlife in the project area to ensure that issues relating to biological resources are appropriately and lawfully managed. Caltrans will submit the biologist’s name, address, telephone number, and work schedule on the project to the USFWS prior to initiating project impacts. The biologist will be provided with a copy of this consultation.

BIO-11 The clearing and grubbing of native habitats for the project will be conducted between September 1 and February 14 to avoid the CAGN and LBV breeding season [or sooner than September 1 if the Project Biologist demonstrates to the satisfaction of the USFWS that all nesting is complete]. If vegetation clearing must be conducted during the breeding season, Caltrans will re-initiate consultation with the USFWS to address unanticipated effects to these species.

BIO-12 The Project Biologist will submit a final report to the USFWS within 120 days of project completion including photographs of impact areas and adjacent habitat, documentation that authorized impacts were not exceeded, and documentation that general compliance with all conservation measures was achieved. The report will specify numbers, locations, and sex of CAGNs and LBVs (if observed), observed CAGN and LBV behavior (especially in relation to project activities), and remedial measures employed to avoid and minimize impacts to CAGNs and LBVs. Raw field notes should be available upon request by the USFWS.

BIO-13 An employee education program will be developed. Each employee (including temporary, contractors, and subcontractors) will receive a training/awareness program prior to working on the proposed project. They will be advised of the potential impact to the listed species and

the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area (including photographs), their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area.

BIO-14 Caltrans will ensure that the following conditions will be implemented during project construction:

- Should construction occur within or adjacent to CSS or riparian habitats during the February 15 to August 31 CAGN and LBV nesting season, all construction equipment, fixed or mobile, will be equipped with properly operating and maintained mufflers to reduce construction noise.
- All pile driving for the project that will occur near habitats that support CAGNs and LBVs will be conducted between September 1 and February 14 to avoid the CAGN and LBV breeding season (or sooner than September 1 if the Project Biologist demonstrates to the satisfaction of the USFWS that all nesting is complete) and to minimize construction noise impacts to nesting CAGNs and LBVs.
- If nighttime construction is necessary, all project lighting (e.g., staging areas, equipment storage sites, roadway) will be selectively placed and directed onto the roadway or construction site and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats.

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